

Appl. No. 10/531,166
Amdt. dated June 8, 2007
Reply to Office action of March 8, 2007

REMARKS

Claims 20, 21 and 23-37 are presently in the application. Claims 1-19, and 22 have been canceled. Claims 26, 28, 29, 31-34 and 36 have been withdrawn from consideration as being drawn to a nonelected species.

Claims 19-25, 27, 30 and 35 have been rejected under 35 U.S.C. 112, second paragraph, as indefinite. Claim 19 has been be rewritten as new independent claim 37. Claim 37 recites, inter alia, “a pressure booster (11) provided in said multi-part injector body, said pressure booster (11) comprising a pressure booster piston (14), a working chamber (12) on one side of said piston and a differential pressure chamber (17) on an opposite side of said pressure booster piston.” Thus, in claim 39, it is clear that the pressure booster piston, the working chamber and the differential pressure chamber are parts of the pressure booster and each part is positively recited. Claims 20, 24, 27 and 30 have also been amended to address the examiner’s comments. All of the claims are now in compliance with the requirements of 35 U.S.C. 112, second paragraph.

Claims 19-25 have been rejected under 35 USC 102(b) as anticipated by Boecking (US 2002/0023970) and claims 19-23, 25, 27 and 30 have been rejected under 35 USC 102(b) as anticipated by Kato et al (US 4,627,571). Reconsideration of these rejections is requested.

According to the examiner, Boecking teaches: a pressure booster 9, 15, 19; a piston 9; a working chamber 6; and a differential pressure chamber 20.

Also, according to the examiner, Kato et al teaches: a pressure booster 32, a piston 48, 52; a working chamber 24; and a differential pressure chamber 54 (Fig. 1).

In fact, neither reference teaches a fuel injection device with a pressure booster as recited in new claim 37.

In Boecking, injection pressure is supplied directly to the nozzle chamber 28 from the common rail via supply line 11 and is not boosted. See, para. [0013]. Elements 9, 15 and 19 are parts of a control valve for control chamber 24.

In Kato, injection pressure is supplied directly from pump 12 via lines 14 and 26 to an accumulating chamber 24, passage 15 and into valve chamber 28. See, col. 2, l. 65 through col. 3, l. 3. What the examiner describes as "pressure booster 32" is actually the nozzle needle. Element 48 is a flange portion on the upper end of the nozzle needle 32 and element 52 is a blind bore in the upper end of the nozzle needle 32. The examiner should note that there is no central control line/passage extending essentially coaxially to an axis of symmetry of the nozzle needle 32.

Kato does illustrate a damping plunger 56 for damping the opening motion of nozzle needle 32. The damping plunger has a through-hole 58 coaxially formed in the damping plunger 56, passing through the damping plunger 56. This through-hole 58 communicates damping chamber 54 with connector hole 60 which is formed in the upper end portion of valve member 42. Valve member 42 is not a pressure booster. Further, the damping plunger 56 cannot be said to seal the connector hole 60 off from the damping chamber 54, because the damping chamber 54 and connector hole 60 are in always in fluid communication via the through-hole 58.

In view of the above, neither Boecking nor Kato anticipates claim 37.

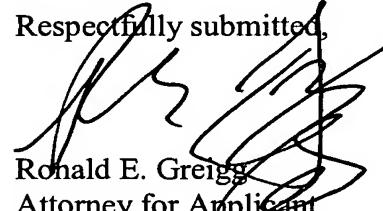
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Further, the dependent claims recite additional structure not taught by either Boecking or Kato. For example, claim 24 recites that the conduit feeds into a recess inside a first housing part of the injector body, which recess is connected to the on-off valve via an overflow line. No such structure is found in either reference.

Claim 27 recites that the line section of the central control line supports a sealing sleeve that can move in relation to the line section and that produces a high-pressure seal for the working chamber and a spring for biasing the sealing sleeve. No such structure is found in either reference.

Since claim 37 is generic and has been shown to be allowable, it is proper to reinstate non-elected claims 26-28, 29, 31-34 and 36 and allow them along with allowable claim 37, on which they ultimately depend.

Entry of the amendment and allowance of the application are respectfully requested.

Respectfully submitted,

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